

# PATENT COOPERATION TREATY

# PCT


## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 23 MAY 2005

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Applicant's or agent's file reference W5039-020 JA		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/EP2004/006405		International filing date (day/month/year) 15.06.2004		Priority date (day/month/year) 26.06.2003
International Patent Classification (IPC) or national classification and IPC H01H25/04				
Applicant SONY ERICSSON MOBILE COMMUNICATIONS AB et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  26.04.2005		Date of completion of this report  24.05.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer  Ruppert, H  Telephone No. +31 70 340-1987		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/006405

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-9 as originally filed

**Claims, Numbers**

1-9 received on 29.04.2005 with letter of 26.04.2005

**Drawings, Sheets**

1/5-5/5 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/006405

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/EP2004/006405

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following document:

D1: EP-A-0 750 274 (SUMITOMO WIRING SYSTEMS) 27 December 1996 (1996-12-27)

Document D1, which is considered to represent the most relevant state of the art, discloses a switch dome device from which the subject-matter of claim 1 differs in that the outputs of adjacent switch domes are operatively connected to inputs of a common AND-circuit, wherein said switch dome device is responsive only to two adjacent switch domes actuated at a time.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as providing an alternative joystick-device which exclusively operates upon simultaneous operation of two adjacent switch domes.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

No hint for this solution could be found in the present prior art.

Claims 2-9 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

## CLAIMS

1. A switch dome device for operating functions in an electronic equipment (10), said device comprising a set of switch domes (4) mounted in a circular pattern on a support structure (5), characterized in that outputs of adjacent switch domes (4) are operatively connected to inputs of a common AND circuit (9), wherein said switch dome device is arranged to be responsive to only two adjacent switch domes actuated at a time for operating a function.

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2. A switch dome device according to claim 1, wherein said switch domes (4) are equally distributed around said circular pattern with the same distance to the centre (8) of said circular pattern.

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3. A switch dome device according to claim 1 or 2, wherein said set of switch domes comprises eight switch domes (4).

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4. An input device (1) for operating functions in an electronic equipment (10), comprising a switch dome device and a switch dome actuator (2) for actuating switch domes (4), characterized in that said switch dome device is a switch dome device according to any of the claims 1-3.

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5. An input device according to claim 4, wherein said actuator (1) is a rocker key provided with actuator bosses (6) for actuating said switch domes (4).

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6. An input device according to claim 4, wherein said actuator (1) is a joystick.

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7. An electronic equipment, characterized by an input device (1) according to any of the claims 4-6.

8. An electronic equipment according to claim 7,  
wherein the switch domes (4) are positioned on the support  
structure (5) on 22,5/67,5/112,5/157,5/  
202,5/247,5/292,5/337,5° positions around the circular  
5 pattern with respect to the orientation of a display (11)  
of the electronic equipment held in a position for normal  
operation by a user.
9. An electronic equipment according to claim 7 or 8,  
10 wherein the electronic equipment is a mobile radio terminal  
(10).